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AUTHOR John, Martha Tyler
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ABSTRACT

Because understanding pictures is a significant aid to readers, this paper explores research on picture interpretation. The paper describes the complexity of the process and states that the ability to interpret pictures seems to proceed from the simple to the complex: from concrete experiences with pictures to the abstract interpretation of in-depth clues. It also discusses the abstract concepts necessary for interpreting pictures (depth perception, perspective, the horizon line, and three dimensionality), and explains how picture interpretation is developed from the exposure to different types of pictures, beginning with simple, direct, clear pictures and progressing to more complex ones that include depth clues, aerial views, and cartoons. The paper lists guidelines for presenting pictures to children and points out that children allowed to draw or paint pictures learn to translate their own and other people's efforts. The paper concludes with ways teachers can help children understand pictures, and explains how a discussion of a drawing can reinforce the child's interest in art, picture interpretation, and English use all at one time. (EL)

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BEGIN AT THE BEGINNING

Martha Tyler John

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Each individual is unique. This fact has been demonstrated in countless research projects and it has been used as the starting point for many educational innovations. Obviously it is desirable that the curriculum, including reading and language arts, should cater to differences between students.

The variety that is found in pupils can be attributed to two major forces: (1) cultural influences and (2) differences in physical, emotional, and mental development. The culture contributes greatly to the development of the individual, and influences both the available experiences the child encounters and the values the pupil develops. The characteristics the child is born with, or develops, may enhance or inhibit his opportunities to become a fully functioning individual.

Cultural and sub-cultural differences can be observed readily, but the far-reaching implications of the cultural setting is not as easily discernable. That the individual lives in a rondavel in Botswana or a cold-water flat in New York City is easily seen. That this unique environment may affect the development of his or her skills and values is not as easily determined.

This paper will deal with the differences one might expect to find in environmental backgrounds, and will suggest effective teaching

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strategies that can be developed once the very beginning levels of differences have been examined.

One of the early experiences that one builds on in the Euro-Western culture is experience with stories and picture books. When the child is very young, the baby's mother or father often says, "Let's look at a book". Sometimes an older brother or sister will "read to" the youngster. Even a grandmother or grandfather may enjoy this quiet time of relaxation with the child. But is this experience common to all children the world around? Do all children develop the ability to look at a book and derive a given bit of information from the pictures in the book? Many people would assume that this is the case, but research reveals some surprising information about this everyday skill that is of interest to all teachers.

RESEARCH SUMMARY

Considerable research has been done dealing with picture interpretation. Patterns of a developmental nature begin to emerge. We see that a number of studies identify the complexity of the tasks of picture interpretation. "Cross-cultural research, mostly conducted in Africa, has made us aware of the fact that the reading of pictures is far from an automatic or innate ability, and that it is like the reading of words, an end product, a skill of some complexity"(Werner, 1979, p.159). It is a complex task, and the ability to interpret pictures seems to proceed from the simple to the complex, from concrete experiences with pictures to the abstract interpretation of in-depth clues.

Concrete Level of Picture Interpretation

At the concrete level of picture experience we find research results and descriptions like the following: Deregowski(1972) gives a description of an African woman who slowly discovered that the photo was a human profile. "She discovered in turn the nose, the mouth, the eye, but where was the other eye? I tried by turning my profile to explain why she could only see one eye, but she hopped around to my other side to point out that I possessed a second eye which the picture lacked"(p.82). While this example shows a lack of ability to interpret pictures correctly, it is true that a profile and a full face view are quite different. Given a simpler picture, could the woman have understood it? Some researchers believe that she might have been able to do so. Wagner and Stevenson(1982) say that ".... when simple objects are clearly represented on familiar material, even people from virtually pictureless environments are able to understand them, even if this comprehension requires some initial effort" (p.83). The initial effort to understand the picture may cause stress even though the ideas are eventually assimilated. For some pupils who had not seen pictures before, picture interpretation was found to be stressful. Researchers even reported subjects running away from the exercise in visible distress. What is new and strange is often stressful. Picture interpretation was new and strange and, therefore, was treated as any other stressful situation.

Hudson (1960) found that those who had difficulty in picture interpretation in the then Union of South Africa were persons who had

grown up in isolated urban ghettos without pictures and reading matter. They lacked concrete experiences with and exposure to picture interpretation.

Mundy-Castle (1966) repeated the Hudson experiments in Ghana. The subjects in this experiment were 5 - 10 years old, but had little exposure to informal picture experience. These subjects showed a very low level of depth perception. The idea conveyed by this study was that a lack of concrete experience in examining and interpreting pictures of any sort contributed to the subject's inability to be able to use the more abstract depth perception clues. This is not really surprising since it is rather generally agreed that individuals learn much through experience and then, develop more abstract constructs based on that concrete experience.

Try to imagine for a moment that you have never seen a picture of any kind. In fact, the word "picture" is not in your vocabulary. Someone walks up to you and hands you a piece of cardboard. There are some lines or smudges on one side. Will you be able to tell readily that the smudge at the upper middle of this small cardboard represents a real life elephant? You have seen elephants, and they are enormous beasts that could cover the cardboard with one foot. There is no way such a beast could be on this paper.

It is clear that the idea of "pictureness" what one is, and what one represents will have to be developed before one can ask for "depth perception".The abstract idea that the elephant is nearer the top of the picture and small - thus, far away is a difficult concept to

understand. A picture represents something in real life, photos especially depict reality. This understanding must be developed prior to the complexity of picture interpretation that involves depth perception. Many books for young children, for the beginning reader, do not take this into consideration. Concrete experiences with pictures where the idea of "pictureness" is developed is a necessary prelude to the development of abstract skill in picture interpretation and the use of depth perception clues.

IMPLICATIONS FROM PSYCHOLOGY

The psychological research that has been done can be viewed as providing a kind of continuum from studies where the concrete exposure to any type of picture was non-existant to the type where some exposure was involved. Miller (1973) says "... the ability to perceive anything in a pictorial representation requires some experience with pictures in order to acquire the set that pictures can represent more than a flat surface " (in Wagner & Stevenson, 1982, p.78).

Studies of Ghanaian children by Jahoda and McGurk (1974a, 1974b), and Tanzanian children by Omari and MacGinitie (1974) show that deficits in pictorial depth perception appear less secure and continuous among a new generation of more educated primary school children. Indeed, these children are receiving exposure to pictures in several forms earlier and more consistently than individuals have in the past, and it is understandable that the children are acquiring the ability to abstract and intellectually manipulate the figures in

the picture to determine depth.

Depth perception is not an automatic skill, by any means. Take a beginning art or design course, and you will discover the amount of time that is spent in trying to get the fledgling artists to understand how to convey depth. Considerable time is also spent on the idea of perspective and the horizon line (real or imagined) in the picture. Even though the persons taking the course have been looking at pictures for years, all the cues in the picture have not necessarily been consciously considered. A number of studies have examined depth perception, and it is at this level of picture interpretation, particularly, where one is asking for the use of abstract thinking.

Abstract Level of Picture Interpretation

"Pictorial depth perception involves a conflict situation where objective cues to flatness must be suppressed in order to participate in the Western cultural convention that flat pictures really represent non flat situations" (Werner, 1979, p. 162). One could reason that this is not so much a Western cultural convention, as a use of pictures and the perception of pictures at an abstract level. In reality, the individual must say, "It is not exactly what I see that counts, but what this is intended to be." It is hypothetical thinking with pictures. Hypothetical thinking is usually represented by "If.../then..." statements. "If this is small, and at the top of the page, then, it is supposed to be far away". What the picture actually shows must be ignored, and the child must respond to what the picture

is intended to represent. Perhaps cultural enrichment and education would influence and positively develop the pupil's ability to think in terms of what is intended. Surely, practice with this type of hypothetical clue should improve the pupil's ability to accurately interpret pictures just as exposure to problem solving situations improves the pupil's ability to hypothesize about problem situations.

Dawson (1974) indicated that Chinese children at 3 years of age could interpret three dimensionality in pictures. Those who had been exposed to toys and picture books, photographs and TV were especially adept at this ".... there is increasing evidence that the initial poor performance of African children with pictorial stimuli may represent an easily reversible lack of acquaintance and training in "reading" depth cues, rather than a stable deficit in perceptual and cognitive skills" (Werner, 1979, p. 164). While the deficit may be reversible, it is probably not "easily reversible". It requires the ability to form abstractions based on picture clues. The development of an abstract idea is based initially on concrete data which generates the formation of new concepts.

Concepts

It would seem appropriate to consider concepts generally, and apply this specifically to the area of picture interpretation. A concept is a word or phrase that identifies a group of objects or events or ideas. One examines a number of concrete objects and groups these together into a collection of similar items. Then an abstract label that adequately describes a number of the items is given the

collection. For example, collies, beagles, terriers, wild dogs, and German shepherds are all collected in a group and despite their differences they are called 'dog'. The idea of "dogness" has formed from association with some real dogs, and some concrete data based on exposure to different types of dogs.

Picture interpretation is developed from the exposure to different types of pictures beginning with simple, direct, clear pictures to more complex ones where such things as depth clues and aerial views are used. The process moves from a concrete experience with an understandable approximation to real life, to other more complex pictures that finally can be generated into an abstract concept of 'pictureness', which includes depth clues, aerial views, cartoons and all.

Concept Formation

When concepts form there are several mental operations that take place. Initially, the individual requires much redundant material. As the concept forms, the amount of repetition or redundant material that is needed decreases. The number of irrelevancies that can be tolerated without distracting the learner increases. That is, one is not so easily diverted once the concept begins to take shape. In the introductory stage, however, irrelevancies distract the learner; they bother the thought processes and should be limited.

As the concept forms, the spatial and temporal separation that can be tolerated by the learner increases. This means that the place

or setting with thich one associates the concept can be varied more and the time in which the concept is presented can be more dispersed. When the concept is new it must be shown or experienced in a given setting. For example, the child thinks, "I saw a chair there". He reviews this time and again carefully checking out the label. It is a chair, and it belongs here.Finally, when he is more certain of the label, the chair can be across the room, even placed under the edge of a table; but it is still a chair. The concept is forming and the child can now tolerate less redundancy; while irrelevancies and spatial and temporal separation can be increased . He is now sure of "chair".

When pupils are initially exposed to picture clues, they should be shown a number of pictures that are similar. Redundant materials should be provided. The amount of distracting material within a given picture whould be kept to a minimum, and the things like representational forms should be clear and relevant to the child's experience. Pictures should be shown often on different topics, and probably their location in books should be emphasized. The rules of concept formation apply to even the process of abstracting information from pictures.

PICTURE TRAINING IDEAS

Specific training in perceptual skills in the interpretation of pictures is needed. Informal experiences in perceiving and handling visual clues are also worthwhile. Studies by D'Andrade (1967), Dawson (1967), Leach 1975), and Poole (1969) all indicate that training can

help the subject significantly; that individuals who have received training are more able to properly interpret picture clues. Werner (1979) says, "It is obvious that primary schooling and nonformal education in developing nations needs to be enhanced by the incorporatioin of specific training and inbformal experience in the perceiving, oprganizing and handling of visual and spatial material" (163). The same idea would hold true for those pupils in the United States who are learning English as a second language and/or have come from a picture deprived background.

It is obvious that training is needed, but the question is, what type of training would be best? The ideas on concept formation have given us some procedural clues. Content clues are needed. Pictures for children should follow the guidelines for good pictures generally. The illustrations used should:

1) Fulfill its function
    a. point out a particular character
    b. sell a product
    c. provide a setting for the action

2) Be attractive

3) Appeal to an identifiable audience

In arranging to help the pupil the teacher should look for pictures that:

1) Make the central theme stand out

   a. Use a contrast in hue, light and dark, black and white

   b. Use complex areas against simplified areas

   c. Control the design by having open spaces

2) Make only one figure stand out

3) Use cultural art or objects that are natural to the area or the culture from which the children come. These will be more readily aid children in learning to interpret pictures.

Self Trainers

Children can serve as their own trainers to a degree. If they are allowed to draw pictures or paint pictures, they become able to translate their own efforts and other people's, as well. The child often begins drawing on an experimental basis wondering how it will turn out. He may just use lots of color and call the yellow "sunshine". As the child becomes more experienced with pictures, he begins to discover that he can make sort of real life things. He may make some squiggly lines and then say, "Oh, look, I made a snake". He is just as surprised as you are. Next, he becomes more able to determine the destiny of his picture, and can predict the, "I can make a cow". Eventually, the child's drawings become more recognizable. More detail is included and these have meaning for him. At this point, the drawings provide an excellent base for English use. A discussion of the drawing can reinforce the child's interest in art,

picture interpretation, and English use all at one time.

Teachers Can Help

When one is reading pictures, he must learn to make inferences about the real world. First, he must judge the height of the object on the picture page. Higher objects are often farther away. However, this is not always true. The tree is high on the page, but it is one the edge of the picture. It is close by. So, the position in the picture, middle, side or top must also be considered.

Secondly, the picture interpreter must examine the superimposition of closer objects over distant objects. Smaller objects are usually farther away unless they are actually smaller in the first place. Picture interpretation is really complicated, isn't it?

Picture reading requires a system, and some cultural and sub-cultural groups may lack a system for picture interpretation. A major problem for educators, curriculum writers, and teachers who teach English as a second language in primary schools is that picture stories are frequently used. These pictures often make use of clues in three-dimensionality while the learner is examining the material from a two-dimensional perspective.

Some exercises in helping the child understand pictures are needed. The following sequence is designed to take the child step-by-step into the world of "picture interpretation".

1) Select a single concept from a familiar setting. For example, show the pupil an real apple. Then show the apple farther and farther away.

2) Now display it against a white sheet of paper.

3) Display a realistic picture of an apple . Each time the apple is shown ask the pupil to identify it verbally.

4) Now, look at different sketches and different sizes of apples.

5) Have the pupil draw a picture of an apple. This should complete an initial exposure to a simple concept.

The process of picture interpretation can be reinforced by using "Wordless Picture Books", "Circle Stories" and "Murals". The full understanding of pictures is a great aid to the reader. In cryptological circles the ability to interpret codes is greatly enhanced if the individual trying to break the code knows the context. In reading, also, it will help the child from a culturally different background tremendously if he or she can interpret the context clues in the pictures accurately.

Teachers deal with the pupils from many different backgrounds. It is helpful for them to think of ways in which difficult subject matter can be effectively taught. The challenge is to teach all

pupils whatever their background, and to take into account the contextual background and the type of experiences that would influence their opportunity to learn. Really excellent teachers begin at the beginning to determine what the child knows already, and works on the basic skills needed for the child to become proficient in reading and in utilizing the English language.

REFERENCES

D'Andrade, R.G., "Testing and Training Procedures at Bassawa", (Paper No. 4,mimeo). Institute of Education, Ahmadu Bello University, 1967.

Dawson, J.L.M., "Cultural and Physiological Influences upon Spatial Perceptual Processes in West Africa". Part I, International Journal of Psychology , 1967, 2, 115-128.

Dawson, J.L.M., Young, B.M. and Choi, P.P.C.,"Developmental Influences in Pictorial Depth Perception among Hong Kong Chinese Children." Journal of Cross-Cultural Psychology , 1974,1,3-22.

Deregowski, J.B., "Pictorial Perception and Culture". Scientific American . 1972,227, p.82.

Hudson, W., "Pictorial Depth Perception in Sub-Cultural Groups in Africa". Journal of Social Psychology , 1960, 52, 183-208.

Jahoda, G.,and McGurk, H., "Pictorial Depth Perception: A Developmental Study". British Journal of Psychology , 1974, 65,

141-149.

Jahoda, G., and McGurk, H., "The Development of Pictorial Depth Perception: Cross-Cultural Replications." Child Develpoment , 1974, 45, 1042-1047.

Leach, M.L., "The Effect of Training on the Pictorial Depth Perception of Shona Children". Journal of Cross-Cultural Psychology , 1975, 2, 315-321.

Miller, R.J., "Cross-Cultural Research in the Perception of Pictorial Materials". Psychological Bulletin , 1973, 80,135-150.

Mundy-Castle, A>C>, "Pictorial Depth Perception in Ghanaian Children". International Journal of Psychology , 1966, 1, 290-300

Omari, I.M. and MacGinitie, W.H., "Some Pictorial Artifacts in Studies of African Children's Pictorial Depth Perception". Child Development , 1979, 45, 535-539.

Poole, H., "Restructuring the Perceptual World of African Children". Teacher Education in New Countries , 1969, 10, 165-172.

Wagner, Daniel A., and Stevenson, Harold W., Cultural Perspectives on Child Development . San Francisco, CA, W.H. Freeman and Company, 1982.

Werner, Emmy Elisabeth, Cross-Cultural Child Development: A View from the Planet Earth .Monterey, CA: Brooks/Cole Publishing Company, 1979.